



August 22, 2006

NRC 2006-0072
10 CFR 50.73

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Point Beach Nuclear Plant, Units 1 and 2
Dockets 50-266 and 50-301
License Nos. DPR-24 and DPR-27

Licensee Event Report 266/301/2006-002-00
Fuel Assemblies in Spent Fuel Pool Do Not Meet Technical Specification Requirements

Enclosed is Licensee Event Report 266/301/2006-002-00 for the Point Beach Nuclear Plant, Units 1 and 2. This LER discusses failure to meet Technical Specification requirements for the discovery of 12 spent fuel assemblies stored in the Spent Fuel Pool (SFP) that had an initial enrichment of 4.70 weight percent but contained no Integral Fuel Burnable Absorber (IFBA) rods. This event is reportable in accordance with 10 CFR 50.73(a)(2)(i)(B) for, "Any operation or condition prohibited by the plant's Technical Specifications."

This letter contains no new commitments and no revisions to existing commitments.

Dennis L. Koehl
Site Vice-President, Point Beach Nuclear Plant
Nuclear Management Company, LLC

Enclosure

cc: Administrator, Region III, USNRC
Project Manager, Point Beach Nuclear Plant, USNRC
Resident Inspector, Point Beach Nuclear Plant, USNRC
PSCW

IE22

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

Estimated burden per response to comply with this mandatory collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records and FOIA/Privacy Service Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0066), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

FACILITY NAME (1) POINT BEACH NUCLEAR PLANT UNIT 2	DOCKET NUMBER (2) 05000301	PAGE (3) 1 of 4
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TITLE (4)
FUEL ASSEMBLIES IN SPENT FUEL POOL DO NOT MEET TECHNICAL SPECIFICATION REQUIREMENTS

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MO	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO	MO	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
06	26	2006	2006	-- 002 --	00	08	25	2006	PT BEACH UNIT 1	05000266
OPERATING MODE (9)			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR .: (Check all that apply) (11)							
1			20.2201(b)			20.2203(a)(3)(ii)			50.73(a)(2)(ii)(B)	50.73(a)(2)(ix)(A)
POWER LEVEL (10)			20.2201(d)			20.2203(a)(4)			50.73(a)(2)(iii)	50.73(a)(2)(x)
100			20.2203(a)(1)			50.36(c)(1)(i)(A)			50.73(a)(2)(iv)(A)	73.71(a)(4)
			20.2203(a)(2)(i)			50.36(c)(1)(ii)(A)			50.73(a)(2)(v)(A)	73.71(a)(5)
			20.2203(a)(2)(ii)			50.36(c)(2)			50.73(a)(2)(v)(B)	OTHER Specify in Abstract below or in NRC Form 366A
			20.2203(a)(2)(iii)			50.46(a)(3)(ii)			50.73(a)(2)(v)(C)	
			20.2203(a)(2)(iv)			50.73(a)(2)(i)(A)			50.73(a)(2)(v)(D)	
			20.2203(a)(2)(v)		X	50.73(a)(2)(i)(B)			50.73(a)(2)(vii)	
			20.2203(a)(2)(vi)			50.73(a)(2)(i)(C)			50.73(a)(2)(viii)(A)	
			20.2203(a)(3)(i)			50.73(a)(2)(ii)(A)			50.73(a)(2)(viii)(B)	

LICENSEE CONTACT FOR THIS LER (12)

NAME William Hennessy	TELEPHONE NUMBER (Include Area Code) 920-755-6573
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX

SUPPLEMENTAL REPORT EXPECTED (14)				EXPECTED SUBMISSION DATE (15)		
YES (If yes, complete EXPECTED SUBMISSION DATE).	X	NO		MONTH	DAY	YEAR

ABSTRACT

On June 26, 2006, while preparing a new procedure, the licensee identified 12 spent fuel assemblies stored in the Spent Fuel Pool (SFP) that had an initial enrichment of 4.70 weight percent and contained no Integral Fuel Burnable Absorber (IFBA) rods. These assemblies were first loaded in Unit 2 Cycle 21 in 1994.

Technical Specification 3.7.12 requires fuel assemblies with an initial enrichment greater than 4.60 weight percent to have an acceptable number of IFBA rods based on Figure 3.7.12-1. The 12 assemblies in question had a nominal initial enrichment of 4.70 weight percent and no IFBA rods.

Storage of the 12 assemblies had previously been evaluated as being acceptable using an approved methodology. A new criticality analysis confirms the earlier analysis by demonstrating that these assemblies may be used in any configuration in the SFP, even if the SFP were filled with unborated water and no Boraflex is present. Therefore, the safety significance of this condition is minimal.

This condition is reportable in accordance with 10 CFR 50.73(a)(2)(i)(B), "Any operation or condition which was prohibited by the plant's Technical Specifications." No corresponding 10 CFR 50.72 report applies.

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TEXT CONTINUATION

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POINT BEACH NUCLEAR PLANT UNIT 2	05000301	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 of 4
		2006	-- 002	-- 00	

TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

Event Description:

On June 26, 2006, Point Beach Nuclear Plant (PBNP) discovered that 12 fuel assemblies stored in the spent fuel pool [DA] do not meet the requirements of Technical Specification 3.7.12. Technical Specification 3.7.12 requires fuel assemblies with an initial enrichment greater than 4.60 weight percent to have an acceptable number of Integral Fuel Burnable Absorber (IFBA) rods based on Figure 3.7.12-1. The 12 assemblies in question had a nominal initial enrichment of 4.70 weight percent and no IFBA rods. Per Figure 3.7.12-1, fuel with an initial enrichment of 4.70 weight percent requires at least four 1.0X IFBA rods.

Different criticality analysis and Technical Specification requirements were in place when the fuel assemblies were purchased and put into use. When the assemblies were purchased, the approved criticality analysis upper limit on initial enrichment was 4.75 weight percent and IFBA was not required.

A license amendment to use a new criticality analysis was approved by the Commission on September 4, 1997, which is the present analysis of record. The new criticality analysis allows fuel with enrichment up to 5.00 weight percent, but requires that fuel with an initial enrichment greater than 4.60 weight percent have a certain number of IFBA rods (based on initial enrichment) to ensure the requirements for SFP keffective (keff) are met. At the time, these 12 assemblies were recognized as not meeting the new requirements. To accommodate these assemblies, an alternate analysis methodology was included in the Technical Specifications. It stated that if assemblies with initial enrichment greater than 4.60 weight percent can be demonstrated to have a kinfinite (kinf) less than a specified value, they would also be acceptable for storage.

When PBNP received the new criticality analysis, a separate report was also received that demonstrated that the kinf for the 12 assemblies was below the Westinghouse specified value and the assemblies were acceptable for storage. At that time, PBNP was in full compliance with the Technical Specification requirements for fuel storage.

On February 26, 1999, Westinghouse issued NSAL-99-003. The advisory letter stated Westinghouse was abandoning the kinf methodology because it could lead to IFBA requirements which are lower than those required by the IFBA enrichment curve. Westinghouse requested that plants with both the kinf and IFBA enrichment curve methodologies to use only the IFBA enrichment curve.

PBNP submitted License Amendment Request (LAR) 214 to remove the kinf methodology from the Technical Specifications without recognizing that it would affect these 12 assemblies. This condition has existed since March 20, 2000, when the amendment to remove the kinf methodology was approved by the Commission.

On June 26, 2006, at 1440, the plant entered Technical Specification Action Condition (TSAC) 3.7.12.A.1, which requires the spent fuel pool to be restored within fuel storage limits immediately. This condition remains in effect pending LAR approval.

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Component and system Description:

The spent fuel pool will accommodate 1502 fuel assemblies. The new and spent fuel storage racks are designed so it is not possible to insert assemblies in other than the prescribed locations. In addition, the spent fuel pool has an area set aside for accepting spent fuel shipping casks or dry storage casks. Borated water is used to fill the spent fuel storage pool at a concentration to match or exceed that used in the reactor cavity and refueling canal during refueling operations. The fuel in the spent fuel pool is stored vertically in an array with sufficient center-to-center distance and intervening solid neutron absorber between assemblies to assure keff <0.95 even if unborated water were to fill the space between the assemblies.

Event Analysis and Safety Significance:

Each of the 12 fuel assemblies has a burnup greater than 45,000 MWD/MTU. Therefore, the current enrichment of the fuel is far below the initial enrichment. Storage of the 12 assemblies had previously been evaluated as being acceptable for storage in the SFP in accordance with an approved methodology. Although the PBNP license was amended to no longer rely on that methodology, the physical factors for assuring safety of the assemblies' storage in the SFP did not change. A new criticality analysis confirms the adequacy of the previous assessment by demonstrating that these assemblies may be used in any configuration in the SFP, even if it is filled with unborated water and no Boraflex is present. Therefore, this condition is of low safety significance.

Cause:

The apparent cause of this event was failure to validate and verify that there were assemblies that could be affected when the Technical Specification change was made to remove the kinf methodology.

Corrective Action:

A license amendment to correct this condition is under development. The amendment is based on a new analysis that takes credit for the burnup of the fuel assemblies. Under the new proposed criticality analysis, the 12 assemblies are acceptable for storage.

A new administrative procedure was issued on June 28, 2006. This procedure includes a "Reload Safety Licensing Checklist" as part of the design process and ensures that new fuel will meet Technical Specification requirements.

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TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

Previous Similar Events:

LER Number

Title

266/1975-018-00

Three Fuel Assemblies Determined to be in Wrong Position in the Spent Fuel Pool.